IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NORTH DAKOTA
SOUTHEASTERN DIVISION

ALIEN TECHNOLOGY CORPORATION,   )
)
                 Plaintiff,   )
v.   )   Case No. 3:06-cv-51
)
INTERMEC, INC., INTERMEC   )
TECHNOLOGIES CORPORATION,   )
and INTERMEC IP CORP.,   )
)
                 Defendants.   )

**Order Granting Summary Judgment of Non-infringement for
U.S. Patents 5,828,318 and 6,812,852**

Plaintiff Alien Technology Corporation ("Alien") and

Defendants (collectively "Intermec") have filed cross motions for

summary judgment on the issue of infringement concerning U.S.

Patents 5,828,318 ("the '318 Patent") and 6,812,852 ("the '852

Patent").[1] The Court, having considered all of the briefs and

documents filed by the parties, now issues this memorandum

opinion and order.

SUMMARY OF DECISION

Literal infringement requires that the accused process

literally embodies every element of the claim. To infringe under

the doctrine of equivalents, the essential inquiry is whether the

accused process contains elements identical or equivalent to each

claimed element of the patented invention. The parties' argument

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[1] Alien's motion for summary judgment of non-infringement is
found at doc. #508, and Intermec's motion for summary judgment of
infringement is found at doc. #551. Because the '852 Patent is a
continuation of the '318 Patent, they will be analyzed together.

on summary judgment revolves around the element of the independent claims defining the contents of the command from the reader to the tag. The Court concludes the inventory process used by Alien's accused products do not infringe the '318 or '852 Patents because the reader's command does not contain the transfer from state or the transfer to state. Furthermore, the accused inventory process cannot infringe under the doctrine of equivalents because the inventory process of Alien's tags does not achieve state transitions in substantially the same way as the '318 and '852 Patents and adopting Intermec's argument would vitiate the disputed claim element. Therefore, the Court **GRANTS** Alien's motion for summary judgment of non-infringement and **DENIES** Intermec's motion for summary judgment of infringement.

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BACKGROUND

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1.   Accused Products and Process

Intermec alleges Alien's Higgs2-based tags infringe Claim 1 of the '318 Patent. Alien's Higgs2-based tags practice the basic inventory process described in the EPCglobal, Inc. Class-1 Generation-2 UHF RFID Protocol for Communications at 860 MHz-960 MHz ("the Protocol" found at doc. #509-2). Therefore, the accused manner of operation is the Protocol's basic inventory process. EPCglobal is a standard setting organization that developed the Protocol as the industry standard for the production of radio frequency identification ("RFID") products.

The parties generally agree on how the Protocol operates. Intermec has selected a narrow and specific inventory process, found in section 6.3.2.8 of the Protocol, that it alleges infringes claim 1 of the '318 Patent. The Protocol at 42-44.

The Protocol inventory process uses five commands: Query, QueryAdjust, QueryRep, ACK, and NAK. <u>Id.</u> at 42. The Query command initiates the inventory round and decides what tags will participate. <u>Id.</u> When the tag is powered up, it enters the Ready state with its session or inventoried flag set to A ("Ready-A"). <u>Id.</u> §§ 6.3.2.4.1 and 6.3.2.2. When a tag receives a Query command, the tag chooses a random value for its slot counter (the "Q value"). <u>Id.</u> at 43. Tags selecting a zero Q value transition to the reply state and reply to the reader immediately by backscattering a 16-bit random number ("RN16"), which helps the reader identify the tag. <u>Id.</u> Tags that pick a nonzero Q value transition to the Arbitrate state and wait for a QueryAdjust or QueryRep command. <u>Id.</u> In its infringement argument, Intermec assumes the Q value in the accused inventory process is set to zero (doc. #552, at 4).

If only one tag replies, the Protocol describes the "query-response algorithm" as follows:

    a)   The Tag backscatters an RN16 as it enters reply,
    b)   The Interrogator acknowledges the Tag with an ACK containing this same RN16,
    c)   The acknowledged Tag transitions to the acknowledged state, backscattering its PC, EPC, and CRC-16,
    d)   The Interrogator issues a QueryAdjust or QueryRep, causing the identified Tag to invert its inventoried flag (i.e. A➡B or B➡A) and transition

> to ready, and potentially causing another Tag to
> initiate a query response dialog with the
> Interrogator, starting in step (a), above.

Id. at 43. This is the process Intermec claims infringes the

'318 and '852 processes.

2.   Claim Construction Order

The parties' dispute concerns the following element of the

'318 and '852 Patents, as stated in claim 1 of the '318 Patent:

> a receiving unit for receiving one or more commands in
> a command sequence, each of the commands specifying a
> "transfer from state", a "transfer to state", and a
> primitive condition; . . .

At the Markman hearing, the parties offered differing

constructions of this element. Alien argued the command itself

must contain the from state, the to state, and the primitive

condition. Intermec argued the command can be shorter because

the tag can have programing that makes the state transition that

follows the command deterministic. Ultimately, the Court

construed the term to mean "each command contains information

that expressly identifies the 'transfer from state,' expressly

identifies the 'transfer to state' and expressly identifies the

'primitive condition.'" (Doc. #466, at 51). The Court must apply

this construction to the parties' arguments on summary judgment.

ANALYSIS

Summary judgment is proper if, in drawing all reasonable

inferences in favor of the non-moving party, there are no genuine

issues of material fact and the moving party is entitled to

judgment as a matter of law. Wavetronix LLC v. EIS Elec.

Integrated Sys., 573 F.3d 1343, 1354 (Fed. Cir. 2009) (citing

Fed. R. Civ. P. 56(c)). "A fact is 'material' if it may affect

the outcome of the proceedings, and an issue of material fact is

'genuine' if the evidence is such that a reasonable jury could

return a verdict for the non-moving party." Id. (citing Anderson

v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986)). Summary

judgment of non-infringement is appropriate "where the patent

owner's proof is deficient in meeting an essential part of the

legal standard for infringement, because such failure will render

all other facts immaterial." TechSearch, LLC v. Intel Corp., 286

F.3d 1360, 1369 (Fed. Cir. 2002).

1.   Literal Infringement

Patent infringement requires a two-step analysis: first, the

court construes the accused patent claims for their proper scope

and meaning; and second, the construed claims are compared to the

allegedly infringing process. Texas Instruments Inc. v. Cypress

Semiconductor Corp., 90 F.3d 1558, 1563 (Fed. Cir. 1996). In

order to prove infringement under the second prong of this

analysis, the patentee must show the accused process meets every

element of the patent claim, either literally or through the

doctrine of equivalents. Id. at 1563-64.

Intermec's infringement arguments for the '318 and '852

Patents are similar to the arguments made by the patentee in

Dynacore Holdings Corp. v. U.S. Philips Corp., 363 F.3d 1263

(Fed. Cir. 2004). In Dynacore Holdings, the patentee alleged

that the products of companies that incorporated an IEEE[2]

standard infringed its patent. Id. at 1266. The court construed

the argument as raising both theories of direct infringement and

indirect infringement, where the patentee may prove vicarious

liability for infringement through contributory infringement or

inducement to infringe under 35 U.S.C. § 271. Dynacore Holdings,

363 F.3d at 1275-76. Here, Intermec has cited to the Protocol

and alleges that Alien's products, which implement the Protocol,

also infringe the '318 and '852 patents. Thus, the Court must

first examine direct infringement, and only if Intermec has

proven direct infringement does it address vicarious liability

for infringement. Id. at 1274.

        The Court construed the disputed element as "each command

contains information that expressly identifies the 'transfer from

state,' expressly identifies the 'transfer to state' and

expressly identifies the 'primitive condition.'" (Doc. #466, at

51). Intermec argues the Court's use of the phrase "expressly

identifies" in its construction "requires that each command in

the selection command sequence, communicate knowledge by which

the identities of the transfer from and transfer to states, as

well as the primitive condition, are unmistakably revealed."

(Doc. #552, at 26). Intermec likens its argument to a statement

expressing airline flights. It notes that whether a person says,

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[2] "The Institute for Electrical and Electronics Engineers (IEEE) is a professional organization that develops and maintains industry standards. Network design is among the topics addressed by IEEE standards." Dynacore Holdings, 363 F.3d at 2366 n.1.

"'I'm taking American's 3:05 flight today from O'Hare to Los Angeles,'" or "'I'm taking American Flight 455 today,"' both statements convey where the person is and where the person is going. (Doc. #552, at 26-27). In other words, the element does not require the transfer from and transfer to states be explicitly identified.

Alien argues Intermec's position is simply a restatement of its argument at the <u>Markman</u> hearing. Alien notes, restating Intermec's airline example, that someone receiving a statement including only the flight number would still need additional information, i.e. the airline's flight schedule. This, Alien argues, is exactly the same as the tag containing programing that makes the state transfer deterministic.

While Intermec's argument is creative, it lacks support in the record. As the Court noted in its <u>Markman</u> opinion, the '318 and '852 Patents require that the command itself contain the from state, the to state, and the primitive condition. Furthermore, under Intermec's argument, the tag receiving the command must still contain programming to process the command, for example the airline flight schedule. In the Protocol, the additional information is programming relaying the same information as the Protocol's command-response tables. The Protocol at Annex C. For example, the state-transition table for the acknowledge command found in Table C.5 of the protocol dictates what transition will occur depending on the starting state and the conditions of the command:

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Table C.5 – *ACK* command-response table

Starting State	Condition	Response	Next State
ready	all	–	ready
arbitrate	all	–	arbitrate
reply	valid RN16	backscatter {PC, EPC, CRC-16} or {00000_2, truncated EPC, CRC-16}	acknowledged
	invalid RN16	–	arbitrate
acknowledged	valid RN16	backscatter {PC, EPC, CRC-16} or {00000_2, truncated EPC, CRC-16}	acknowledged
	invalid RN16	–	arbitrate

However, the '318 and '852 Patents teach that the command itself contains this information, as the Court discussed by way of the command examples found in the Patents' specifications. The commands of the Protocol do not contain this information. Therefore, the Protocol, and tags practicing the Protocol, do not literally infringe the '318 and '852 Patents.

2.   Infringement Under the Doctrine of Equivalents

When an accused process does not literally infringe a patent, it may still infringe under the doctrine of equivalents if the accused process practices an equivalent of the patent. Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 520 U.S. 17, 21 (1997); Zygo Corp. v. Wyko Corp., 79 F.3d 1563, 1568 (Fed. Cir. 1996). Each element of a patent is material, so the doctrine of equivalents must be applied on a element-by-element basis rather than the invention as a whole. Warner-Jenkinson, 520 U.S. at 29.

This doctrine is analyzed under an essential inquiry: "Does the accused product or process contain elements identical or equivalent to each claimed element of the patented invention?"

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Id. at 40. However, the doctrine of equivalents cannot be
subject to a rigid formula. Intel Corp. v. U.S. Int'l Trade
Comm'n, 946 F.2d 821, 832 (Fed. Cir. 1991); see also
Warner-Jenkinson, 520 U.S. at 40 ("we see no purpose in going
further and micromanaging the Federal Circuit's particular word
choice for analyzing equivalence."). Helpful in the inquiry is
considering whether the accused process performs substantially
the same function in substantially the same way to achieve
substantially the same result. Warner-Jenkinson, 520 U.S. at 40;
Zygo Corp., 79 F.3d at 1568. Furthermore, a process cannot
infringe under the doctrine of equivalents if applying the
doctrine violates the "all limitations rule," that is, if
applying the doctrine would vitiate an entire claim limitation.
Pfizer, Inc. v. Teva Pharm., USA, Inc., 429 F.3d 1364, 1379 (Fed.
Cir. 2005). This test is also not subject to a set formula. Id.
at 1379-80.

     Under the Protocol's inventory process, the state transition
that is accomplished depends entirely on the tag's present state,
the command that is received, and the predetermined state to
which the tag will transition, which is stored in the tag. As
discussed above, the Protocol's commands do not include a
transfer from state or a transfer to state. Rather than using
the information contained in the command to achieve a state
transition, a tag practicing the Protocol's process relies on the
command and its detailed logic, including the tag's inventoried
flag values, its programed memory, and its Q value. In other

words, a state transition in the Protocol's process is more dependent on the tag's logic, whereas the state transition taught by the '318 and '852 Patents is controlled entirely by the reader's command. Thus, the way a state transition is achieved in the Protocol is substantially different from the process described in the patents. Therefore, no reasonable jury could find the state transition of the Protocol's process is the equivalent of the state transition of the '318 and '852 Patents.

Furthermore, as Alien notes, if the deterministic method practiced in the Protocol was the same as the process taught in the '318 and '852 Patents, there would be no need to include the claim element requiring each command specify the transfer from state, the transfer to state, and the primitive condition. The two processes present opposite methods. This would vitiate the disputed claim element. Therefore, the Protocol's inventory process cannot infringe the '318 and '852 Patents under the doctrine of equivalents. Alien is entitled to judgment of non-infringement as a matter of law.

<div align="center">CONCLUSION</div>

For the foregoing reasons, the Court **GRANTS** Alien's motion for summary judgment of non-infringement on the '318 and '852 Patents and **DENIES** Intermec's motion for summary judgment of infringement on claim 1 of the '318 Patent. Alien is entitled to

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a declaratory judgment of non-infringement on the '318 and '852

Patents as a matter of law.

>   **IT IS SO ORDERED.**

>   Dated this 15th day of September, 2009.

>   /s/ Ralph R. Erickson
>   Ralph R. Erickson, District Judge
>   United States District Court